U 014722-6

SEQUENCE LISTING

<110> Mallick, Birendra Nath
      Kar, Santosh Kumar
      Mishra, Bibhuti Bhusan
      Madan, Vibha

<120> A METHOD FOR IDENTIFICATION AND/OR DIAGNOSIS OF REM SLEEP LOSS FROM BLOOD SAMPLES

<130> JNU-REM

<160> 1

<170> PatentIn version 3.1

<210> 1
<211> 1477
<212> PRT
<213> Rattus norvegicus

<400> 1

```
Met Lys Lys Asp Arg Glu Ala Gln Leu Cys Leu Phe Ser Ala Leu Leu
1               5                   10                  15


Ala Phe Leu Pro Phe Ala Ser Leu Leu Asn Gly Asn Ser Lys Tyr Met
            20                  25                  30


Val Leu Val Pro Ser Gln Leu Tyr Thr Glu Thr Pro Glu Lys Ile Cys
        35                  40                  45


Leu His Leu Tyr His Leu Asn Glu Thr Val Thr Val Thr Ala Ser Leu
    50                  55                  60


Ile Ser Gln Arg Gly Thr Arg Lys Leu Phe Asp Glu Leu Val Val Asp
65                  70                  75                  80


Lys Asp Leu Phe His Cys Val Ser Phe Thr Ile Pro Arg Leu Pro Ser
                85                  90                  95


Ser Glu Glu Glu Glu Ser Leu Asp Ile Asn Ile Glu Gly Ala Lys His
            100                 105                 110


Lys Phe Ser Glu Arg Arg Val Val Leu Val Lys Asn Lys Glu Ser Val
            115                 120                 125


Val Phe Val Gln Thr Asp Lys Pro Met Tyr Lys Pro Gly Gln Ser Val
        130                 135                 140
```

```
Lys Phe Arg Val Val Ser Met Asp Lys Asn Leu His Pro Leu Asn Glu
145             150         155         160

Leu Phe Pro Leu Ala Tyr Ile Glu Asp Pro Lys Met Asn Arg Ile Met
            165         170         175

Gln Trp Gln Asp Val Lys Thr Glu Asn Gly Leu Lys Gln Leu Ser Phe
            180         185         190

Ser Leu Ser Ala Glu Pro Ile Gln Gly Pro Tyr Lys Ile Val Ile Leu
            195         200         205

Lys Gln Ser Gly Val Lys Glu Glu His Ser Phe Thr Val Met Glu Phe
            210         215         220

Val Leu Pro Arg Phe Gly Val Asp Val Lys Val Pro Asn Ala Ile Ser
225             230         235         240

Val Tyr Asp Glu Ile Ile Asn Val Thr Ala Cys Ala Thr Tyr Thr Tyr
            245         250         255

Gly Lys Pro Val Pro Gly His Val Lys Ile Ser Leu Cys His Gly Asn
            260         265         270

Pro Thr Phe Ser Ser Glu Thr Lys Ser Gly Cys Lys Glu Glu Asp Ser
            275         280         285

Arg Leu Asp Asn Asn Gly Cys Ser Thr Gln Glu Val Asn Ile Thr Glu
            290         295         300

Phe Gln Leu Lys Glu Asn Tyr Leu Lys Met His Gln Ala Phe His Val
305             310         315         320

Asn Ala Thr Val Thr Glu Glu Gly Thr Gly Ser Glu Phe Ser Gly Ser
            325         330         335

Gly Arg Ile Glu Val Glu Arg Thr Arg Asn Lys Phe Leu Phe Leu Lys
            340         345         350

Ala Asp Ser His Phe Arg His Gly Ile Pro Phe Phe Val Lys Val Arg
            355         360         365

Leu Val Asp Ile Lys Gly Asp Pro Ile Pro Asn Glu Gln Val Leu Ile
370             375         380
```

Lys Ala Arg Asp Ala Gly Tyr Thr Asn Ala Thr Thr Thr Asp Gln His
385   390   395   400

Gly Leu Ala Lys Phe Ser Ile Asp Thr Asn Gly Ile Ser Asp Tyr Ser
            405   410   415

Leu Asn Ile Lys Val Tyr His Lys Glu Glu Ser Ser Cys Ile His Ser
            420   425   430

Ser Cys Thr Ala Glu Arg His Ala Glu Ala His His Thr Ala Tyr Ala
            435   440   445

Val Tyr Ser Leu Ser Lys Ser Tyr Ile Tyr Leu Asp Thr Glu Ala Gly
    450   455   460

Val Leu Pro Cys Asn Gln Ile His Thr Val Gln Ala His Phe Ile Leu
465   470   475   480

Lys Gly Gln Val Leu Gly Val Leu Gln Gln Ile Val Phe His Tyr Leu
            485   490   495

Val Met Ala Gln Gly Ser Ile Leu Gln Thr Gly Asn His Thr His Gln
            500   505   510

Val Glu Pro Gly Glu Ser Gln Val Gln Gly Asn Phe Ala Leu Glu Ile
            515   520   525

Pro Val Glu Phe Ser Met Val Pro Val Ala Lys Met Leu Ile Tyr Thr
    530   535   540

Ile Leu Pro Asp Gly Glu Val Ile Ala Asp Ser Val Lys Phe Gln Val
545   550   555   560

Glu Lys Cys Leu Arg Asn Lys Val His Leu Ser Phe Ser Pro Ser Gln
            565   570   575

Ser Leu Pro Ala Ser Gln Thr His Met Arg Val Thr Ala Ser Pro Gln
            580   585   590

Ser Leu Cys Gly Leu Arg Ala Val Asp Gln Ser Val Leu Leu Gln Lys
    595   600   605

```
Pro Glu Ala Glu Leu Ser Pro Ser Leu Ile Tyr Asp Leu Pro Gly Met
    610             615             620
```

```
Gln Asp Ser Asn Phe Ile Ala Ser Ser Asn Asp Pro Phe Glu Asp Glu
625             630             635             640
```

```
Asp Tyr Cys Leu Met Tyr Gln Pro Ile Ala Arg Glu Lys Asp Val Tyr
            645             650             655
```

```
Arg Tyr Val Arg Glu Thr Gly Leu Met Ala Phe Thr Asn Leu Lys Ile
            660             665             670
```

```
Lys Leu Pro Thr Tyr Cys Asn Thr Asp Tyr Asp Met Val Pro Leu Ala
        675             680             685
```

```
Val Pro Ala Val Ala Leu Asp Ser Ser Thr Asp Arg Gly Met Tyr Glu
    690             695             700
```

```
Ser Leu Pro Val Val Ala Val Lys Ser Pro Leu Pro Gln Glu Pro Pro
705             710             715             720
```

```
Arg Lys Asp Pro Pro Pro Lys Asp Pro Val Ile Glu Thr Ile Arg Asn
            725             730             735
```

```
Tyr Phe Pro Glu Thr Trp Ile Trp Asp Leu Val Thr Val Asn Ser Ser
            740             745             750
```

```
Gly Val Thr Glu Leu Glu Met Thr Val Pro Asp Thr Ile Thr Glu Trp
            755             760             765
```

```
Lys Ala Gly Ala Leu Cys Leu Ser Asn Asp Thr Gly Leu Gly Leu Ser
    770             775             780
```

```
Ser Val Ala Ser Phe Gln Ala Phe Gln Pro Phe Phe Val Glu Leu Thr
785             790             795             800
```

```
Met Pro Tyr Ser Val Ile Arg Gly Glu Ala Phe Thr Leu Lys Ala Thr
            805             810             815
```

```
Val Leu Asn Tyr Leu Pro Thr Ser Leu Pro Met Ala Val Leu Leu Glu
            820             825             830
```

```
Ala Ser Pro Asp Phe Thr Ala Val Pro Val Glu Asn Asn Gln Asp Ser
    835             840             845
```

```
Tyr Cys Leu Gly Ala Asn Gly Arg His Thr Ser Ser Trp Leu Val Thr
    850             855             860

Pro Lys Ser Leu Gly Asn Val Asn Phe Ser Val Ser Ala Glu Ala Arg
865             870             875             880

Gln Ser Pro Gly Pro Cys Gly Ser Glu Val Ala Thr Val Pro Glu Thr
                885             890             895

Gly Arg Lys Asp Thr Val Val Lys Val Leu Ile Val Glu Pro Glu Gly
            900             905             910

Ile Lys Lys Glu His Thr Phe Ser Ser Leu Leu Cys Ala Ser Asp Ala
    915             920             925

Glu Leu Ser Glu Thr Leu Ser Leu Leu Leu Pro Pro Thr Val Val Lys
    930             935             940

Asp Ser Ala Arg Ala His Phe Ser Val Met Gly Asp Ile Leu Ser Ser
945             950             955             960

Ala Ile Lys Asn Thr Gln Asn Leu Ile Gln Met Pro Tyr Gly Cys Gly
            965             970             975

Glu Gln Asn Met Val Leu Phe Ala Pro Asn Ile Tyr Val Leu Lys Tyr
            980             985             990

Leu Asn Glu Thr Gln Gln Leu Thr  Glu Lys Ile Lys Ser  Lys Ala Leu
    995             1000            1005

Gly Tyr  Leu Arg Ala Gly Tyr  Gln Arg Glu Leu Asn  Tyr Lys His
    1010            1015            1020

Lys Asp  Gly Ser Tyr Ser Ala  Phe Gly Asp His Asn  Gly Gln Gly
    1025            1030            1035

Gln Gly  Asn Thr Trp Leu Thr  Ala Phe Val Leu Lys  Ser Phe Ala
    1040            1045            1050

Gln Ala  Arg Ala Phe Ile Phe  Ile Asp Glu Ser His  Ile Thr Asp
    1055            1060            1065
```

```
Ala Phe  Thr Trp Leu Ser Lys  Gln Gln Lys Asp Ser  Gly Cys Phe
    1070              1075              1080

Arg Ser  Ser Gly Ser Leu Leu  Asn Asn Ala Met Lys  Gly Gly Val
    1085              1090              1095

Asp Asp  Glu Ile Thr Leu Ser  Ala Tyr Ile Thr Met  Ala Leu Leu
    1100              1105              1110

Glu Ser  Ser Leu Pro Asp Thr  Asp Pro Val Val Ser  Lys Ala Leu
    1115              1120              1125

Ser Cys  Leu Glu Ser Ser Trp  Glu Asn Ile Glu Gln  Gly Gly Asn
    1130              1135              1140

Gly Ser  Phe Val Tyr Thr Lys  Ala Leu Met Ala Tyr  Ala Phe Ala
    1145              1150              1155

Leu Ala  Gly Asn Gln Glu Lys  Arg Asn Glu Ile Leu  Lys Ser Leu
    1160              1165              1170

Asp Lys  Glu Ala Ile Lys Glu  Asp Asn Ser Ile His  Trp Glu Arg
    1175              1180              1185

Pro Gln  Lys Pro Thr Lys Ser  Glu Gly Tyr Leu Tyr  Thr Pro Gln
    1190              1195              1200

Ala Ser  Ser Ala Glu Val Glu  Met Ser Ala Tyr Val  Val Leu Ala
    1205              1210              1215

Arg Leu  Thr Ala Gln Pro Ala  Pro Ser Pro Glu Asp  Leu Ala Leu
    1220              1225              1230

Ser Met  Gly Thr Ile Lys Trp  Leu Thr Lys Gln Gln  Asn Ser Tyr
    1235              1240              1245

Gly Gly  Phe Ser Ser Thr Gln  Asp Thr Val Val Ala  Leu Asp Ala
    1250              1255              1260

Leu Ser  Lys Tyr Gly Ala Ala  Thr Phe Ser Lys Ser  Gln Lys Thr
    1265              1270              1275

Pro Ser  Val Thr Val Gln Ser  Ser Gly Ser Phe Ser  Gln Lys Phe
    1280              1285              1290
```

```
Gln Val  Asp Lys Ser Asn Arg  Leu Leu Leu Gln Gln  Val Ser Leu  |
    1295              1300              1305
```

```
Pro Tyr  Ile Pro Gly Asn Tyr  Thr Val Ser Val Ser  Gly Glu Gly  |
    1310              1315              1320
```

```
Cys Val  Tyr Ala Gln Thr Thr  Leu Arg Tyr Asn Val  Pro Leu Glu  |
    1325              1330              1335
```

```
Lys Gln  Gln Pro Ala Phe Ala  Leu Lys Val Gln Thr  Val Pro Leu  |
    1340              1345              1350
```

```
Thr Cys  Asn Asn Pro Lys Gly  Gln Asn Ser Phe Gln  Ile Ser Leu  |
    1355              1360              1365
```

```
Glu Ile  Ser Tyr Met Gly Ser  Arg Pro Ala Ser Asn  Met Val Ile  |
    1370              1375              1380
```

```
Ala Asp  Val Lys Met Leu Ser  Gly Phe Ile Pro Leu  Lys Pro Thr  |
    1385              1390              1395
```

```
Val Lys  Lys Leu Glu Arg Leu  Gly His Val Ser Arg  Thr Glu Val  |
    1400              1405              1410
```

```
Thr Thr  Asn Asn Val Leu Leu  Tyr Leu Asp Gln Val  Thr Asn Gln  |
    1415              1420              1425
```

```
Thr Leu  Ser Phe Ser Phe Ile  Ile Gln Gln Asp Ile  Pro Val Lys  |
    1430              1435              1440
```

```
Asn Leu  Gln Pro Ala Ile Val  Lys Val Tyr Asp Tyr  Tyr Glu Thr  |
    1445              1450              1455
```

```
Asp Glu  Val Ala Phe Ala Glu  Tyr Ser Ser Pro Cys  Ser Ser Asp  |
    1460              1465              1470
```

```
Asp Gln  Asn Val  |
    1475
```